12. Write a Java program to perform the division of two numbers.

The program should:

● Use try-catch to handle ArithmeticException (divide by zero)

● Use a try-catch to handle invalid inputs (InputMismatchException)

● Use a finally block to print a message that runs regardless of exception

● Loop until the user provides valid input and a successful division occurs

Code

```
import java.util.Scanner;
import java.util.InputMismatchException;

public class DivisionDemo {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        boolean success = false;

        while (!success) {
            try {
                System.out.print("Enter first number: ");
```

```
            int a = sc.nextInt();

            System.out.print("Enter second number: ");
            int b = sc.nextInt();

            int result = a / b;

            System.out.println("Division Result: " + result);
            success = true;
        }

        catch (ArithmeticException e) {
            System.out.println("Error: Cannot divide by
zero.");
        }

        catch (InputMismatchException e) {
            System.out.println("Error: Invalid input. Please
enter integers only.");
            sc.nextLine(); // clear invalid input
        }

        finally {
            System.out.println("Execution Completed.\n");
        }
```

```
        }

        sc.close();
    }
}
```